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New climate mitigation scenario highlights stark challenge ahead

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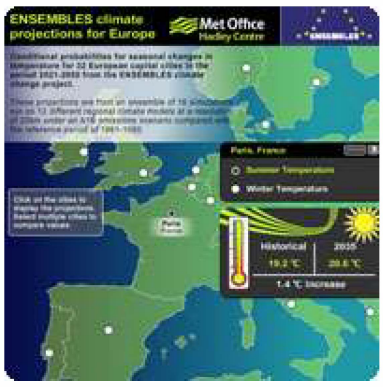

Latest research has shown that emissions of CO_2 will need to be reduced close to zero by the end of this century if a rise in the mean global temperature beyond 2 °C is to be avoided. A temperature rise of no more than 2 °C is widely acknowledged as the 'safe' level to avoid dangerous climate change.

This finding follows the development of a new climate mitigation scenario constructed using the same principles that will be adopted by the next IPCC assessment review using concentrations of greenhouse gases and other forcings as a starting point. Modellers have then been able to establish what level of emissions would need to be achieved so as to restrict global temperature rise.

This research, revealed at *'ENSEMBLES – A changing climate in Europe'* symposium at the Met Office in Exeter, is the culmination of five years of research from 66 institutes across Europe, led by the Met Office Hadley Centre and funded by the European Commission.

John Mitchell, Director of Climate Science at the Met Office and ENSEMBLES co-ordinator, said: "This latest research emphasises the necessity to make drastic cuts in emissions as quickly and as soon as possible if we are to avoid dangerous climate change and highlights the importance of the negotiations that will take place in Copenhagen in December."

Dan Norris, Minister for Rural Affairs and Environment, said: "The revolutionary UK Climate Projections 2009 that we launched last summer, based on Met Office science, showed that not only do we need to tackle the causes of climate change but also that we must deal with the consequences. I'm delighted that the Met Office is hosting this symposium. It reinforces the leadership role that the UK and other member states are playing in international climate science and policy. Just as importantly, it's a chance to take stock — to discuss the science that has been developed, advances made, and to look at the priorities and the next set of questions we need to address."

Other findings from the ENSEMBLES research program include:

- An ensemble prediction system giving the first probabilistic climate projections of temperature and rainfall changes fro Europe this century;
- An assessment of the impact of climate change on a range of sectors including agriculture, health, energy, water resources and insurance relevant to decisions being made today;
- A clearer picture of the physical, chemical, biological and human-related feedbacks in the climate system and how to represent them in models that will increase certainty in climate predictions;
- The development of the first high resolution climate observation datasets for Europe that can be used to validate ensemble predictions.

ENSEMBLES project

ENSEMBLES climate projections for Europe (requires Flash)

Notes:

- ENSEMBLES is a five-year research project on climate change and its impacts on Europe that is funded by the European Commission as an EU framework program 6 project.
- The findings of the ENSEMBLES programme are being reported at a symposium hosted at the Met Office in Exeter between 17th and 19th November.
- Led by the Met Office and involving 66 partners, the project is the biggest ever integrated climate change research project. Using the most up-to-date models, ENSEMBLES has made significant advances in producing climate projections and assessing the impacts.

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